Application No.

10/735,260

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Filed

December 11, 2003

IN THE SPECIFICATION

1. Please delete paragraph [0015] of Applicant's specification as filed and insert the following text in its place as follows:

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The present invention satisfies the foregoing needs by, *inter alia*, adding features to assist robustness in the case of errored arbitration requests, and robustness in the case of bursts of byte errors.

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In accordance with a first aspect of the invention, a method of protecting symbol types transmitted across a communication medium is disclosed. In one embodiment, the method comprises encoding a symbol having a plurality of bits. where the most significant bit and the least significant bit of the symbol indicates a type of the symbol and transmitting the symbol across the communication medium such that the encoding protects symbol types, as a single byte error cannot affect both the most significant bit and the least significant bit of the symbol. In one variant, the symbol is encoded such that the most significant bit is identical to the least significant bit. In another variant, the symbol consists of eight bits. In yet another variant, the symbol type corresponds to either a first type or a second type, wherein if the most significant bit and the least significant bit both comprise a high bit, the symbol type corresponds to one of the first and second type, and if the most significant bit and the least significant bit of the symbol both comprise a low bit, the symbol type corresponds to the other of the first and second types. In yet another variant, the first type comprises a data symbol and the second type comprises a non-data symbol. In yet another variant, a bit adjacent to the most significant bit of the symbol and a bit adjacent to the least significant bit of the symbol are adapted to indicate a symbol subtype. In yet another variant, the symbol subtype comprises one of (i) a control symbol, or (ii) an arbitration request symbol. In yet another variant, at least five bits of the symbol are adapted to indicate a symbol subtype with the five bits not including the most significant bit and the least significant bit. In yet another variant, the communication medium comprises a bus compliant with a high-speed serialized bus protocol. In yet another variant, the high-speed serialized bus protocol comprises at least one of the IEEE Std. 1394b and 1394c standards.

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In accordance with a second aspect of the invention, a computerized apparatus for transmitting data across a communication medium is disclosed. In one embodiment, the apparatus includes a first module to encode a symbol with a plurality of bits, wherein the first module indicates a type of the symbol by setting or resetting both a most significant bit and a least significant bit of the symbol and a second module to transmit the encoded symbol across the communication medium. In one variant, the symbol type corresponds to either a first type or a second type, wherein if the most significant bit and the least significant bit of the symbol are both set, the symbol type corresponds to the first type, and if the most significant bit and the least significant bit of the symbol are both reset, the symbol type corresponds to the second type. In another variant, a bit adjacent to the most

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significant bit of the symbol and a bit adjacent to the least significant bit of the symbol indicate a symbol subtype. In yet another variant, bits of the symbol indicate a symbol subtype, where the bits do not include the most significant bit and the least significant bit of the symbol. In yet another variant, the communication medium comprises a bus compliant with a high-speed serialized bus protocol. In yet another variant, the high-speed serialized bus protocol comprises at least one of the IEEE Std.1394b and 1394c standards. --